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97084/00024
(STEVENS 3.0-008)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of
Svetlana A. Sukhishvili, et al.

Serial No.: 10/624,993

Confirmation No. 8177

Filed: July 22, 2003

For: METHODS FOR CONTROLLED
RELEASE OF MOLECULES FROM
LAYERED POLYMER FILMS

Group Art Unit: To be assigned

Examiner: To be assigned

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with the provisions of 37 C.F.R. §§ 1.97 and 1.98, applicants and their attorney respectfully request that the following patents and publications, copies of which are attached hereto, be made of record in the official United States Patent and Trademark Office file relating to the above-identified application. The citation of these patents and publications should not be construed as an admission that they contain statutory prior art with respect to the present invention.

Copies of the cited foreign patent documents and non-patent literature are provided herewith, in accordance with 37 CFR 1.98(a)(2). As permitted by the Commissioner's partial waiver of 37 CFR 1.98(a)(2)(i), copies of the cited U.S. patents and patent publications are not provided.

U.S. Patents

4,684,558	5,626,863	6,103,785
4,997,656	5,650,165	6,187,872
5,143,071	5,674,275	6,228,390
5,171,264	5,674,346	6,306,922
5,219,325	5,700,585	6,316,018
5,275,838	5,712,346	6,444,744
5,354,790	5,807,636	6,468,383
5,480,717	5,837,377	6,509,098
5,505,957	5,840,329	6,740,409
5,567,435	5,846,214	
5,593,395	6,068,053	

Publications

US 2001/0041349 A1	US 2002/0031699 A1
US 2002/0007217 A1	US 2003/0054024 A1
US 2002/0010261 A1	US 2003/0069383 A1
US 2002/0037383 A1	US 2003/0077447 A1
US 2002/0071902 A1	US 2003/0082225 A1
US 2002/0091229 A1	US 2003/0087099 A1

Other Publications

Antipov Vieira, Euridice, et al.; Abstract of "Controlled and sustained release properties of polyelectrolyte multilayer capsules,"
Application: WO 2001-EP9908 20010828, 2002, pp. 59.

Hepel, Maria, et al.; Abstract of "Electrochemically stimulated controlled release of cations from composite conductive polymer matrix," Dept. of Chemistry,
State Univ. of New York College, Postdam, NY,
Proceedings of the International Symposium on Controlled Release
of Bioactive Materials, 2000.

- Sun, Xiangying, et al.; Abstract of "PH and potential-sensitive film of polyaniline for drug release," College of Cehm. Engineering, Huaqiao Univ., Quanzhou, Peop. Rep. China, Huaqiao Daxue Xuebao, Ziran Kexueban 2000.
- Hepel, Maria et al.; Abstract of "Controlled binding and electrorelease of inorganic cations and drugs from composite polymer films," Dept. of Chemistry, State Univ. of New York, Postdam, NY, Polym. Mater. Sci. Eng., 1994.
- Brynda, Eduard, et al., Abstract of "Method for immobilization of proteins and polyelectrolytes on surface of solids," Appln. WO 96-CZ10 19960326, 1996, 13 pp.
- Boulmedais, F., et al., "Multilayered Polypeptide Films: Secondary Structures and Effect of Various Stresses", Insitut Charles Sadron (CNRS), Starbourg Cedex, France, 2003, Langmuir, pp. 9873-9882.
- Sukhishvili, Svetlana A., et al., "Layered, Erasable, Ulrathin Polymer Films", Dept. of Materials Science and Engineering, Univ. of Illinois at Urbana-Champaign, Urbana, Illinois, 2000, J. Am. Chem. Soc., pp. 9550-9551.
- Nicol, Erwan, et al., "Polyelectrolyte Multilayers as Nanocontainers for Functional Hydrophilic Moleclues", Unite de Physique et de Chimie des Hauts Polymeres, Universite catholique de Louvain, Louvain-la-Neuve, Belgium, 2003, Langmuir, pp. 6178-6186.
- Chung, A.J., et al., "Methods of Loading and Releasing Low Molecular Weight Cationic Molecules in Weak Polyelectrolyte Multilayer Films", Dept. of Materials Science and Engineering, Massachusetts Inst. of Technology, Cambridge, Mass., 2002, Languir, pp. 1176-1183.
- Lavalle, Philippe, et al., "Direct Evidence for Vertical Diffusion and Exchange Processes of Polyanions and Polycations in Polyelectrolyte Multilayer Films", Instit National de la Sante Et de la Recherche Medicale, Unite 595, Faculte de Chirurgie Dentaire, Universite Louis Pasteur, Strasbourg Cedex, France, 2004, Macromolecules, pp. 1159-1162.
- Sukhishvili, Svetlana A., et al., "Layered, Erasable Polymer Multilayers Formed by Hydrogen- Bonded Sequential Self- Assembly", Dept. of Chemistry and Chemical Biology, Stevens Institute of Technology, Hoboken, New Jersey, 2002, Macromolecules, pp. 301-310.
- Kharlampieva, Eugenia, et al., "Adsorption of Macromolecule as a Release Trigger of Small Molecule from Polymer Multilayers", Dept. of Chemistry & Chemical Biology, Stevens Institute of Technology, Hoboken, New Jersey, 2003, Polymer Preprints, pp.671-672.

Kharlampieva, Eugenia, et al., "Ionization and pH Stability of Multilayers Formed by Self-Assembly of Weak Polyelectrolytes", Dept. of Chemistry and Chemical Biology, Stevens Institute of Tech., Hoboken, New Jersey, 2003, Langmuir, pp. 1235-1243.

Specification of U.S. Defensive Publication No. T099082, filed November 15, 2000.

In order to facilitate the Examiner's citation of the patents and publications listed above, applicants' attorney has completed United States Patent and Trademark Office Form PTO/SB/08A. The completed Form is attached hereto for the Examiner's convenience.

This Information Disclosure Statement is being filed before receipt of the first substantive Office Action, therefore, no fees are believed to be due. If any such fees are due, the Examiner is hereby authorized to charge them to Deposit Account No. 501402.

Respectfully submitted,

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(use as many sheets as necessary)

Sheet 1 of 6

Complete if Known

Application Number	10/624,993
Filing Date	July 22, 2003
First Named Inventor	Svetlana A. Sukhishvili
Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	97084/00024

U.S. PATENT DOCUMENTS

Examiner Initials [*]	Cite No. ¹	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code (if known) ²			
		US- 4,684,558		8/4/1987	Keusch, et al.	
		US- 4,997,656		3/5/1991	Shikinami, et al.	
		US- 5,143,071		9/1/1992	Keusch, et al.	
		US- 5,171,264		12/15/1992	Merrill	
		US- 5,219,325		6/15/1993	Hennink, et al.	
		US- 5,275,838		1/4/1994	Merrill	
		US- 5,354,790		10/11/1994	Keusch, et al.	
		US- 5,480,717		1/2/1996	Kundel	
		US- 5,505,957		4/4/1996	D'Angelo, et al.	
		US- 5,567,435		10/22/1996	Hubbell, et al.	
		US- 5,593,395		1/14/1997	Martz	
		US- 5,626,863		5/6/1997	Hubbell, et al.	
		US- 5,650,165		7/22/1997	Akemi, et al.	
		US- 5,674,275		10/7/1997	Tang, et al.	
		US- 5,674,346		10/7/1997	Kundel	
		US- 5,700,585		12/23/1997	Lee	
		US- 5,712,346		1/27/1998	Lee	
		US- 5,807,636		9/15/1998	Sheu, et al.	
		US- 5,837,377		11/17/1998	Sheu, et al.	
		US- 5,840,329		11/24/1998	Bai	

FOREIGN PATENT DOCUMENTS

[illegible]

Date	
Considered	

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>				ATTY DOCKET NO. 97084/00024		APPLICATION NO. 10/624,993	
				APPLICANT(S) Svetlana A. Sukhishvili, et al.			
				FILING DATE July 22, 2003		GROUP ART UNIT To be assigned	
U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		5,846,214	12/8/1998	Makuuchi, et al.			
		6,068,053	5/30/2000	Shaw			
		6,103,785	8/15/2000	Kajikawa, et al.			
		6,187,872 B1	2/13/2001	Yanase, et al.			
		6,228,390 B1	5/8/2001	Kundel			
U.S. PATENT APPLICATION PUBLICATIONS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		US 2001/0041349 A1	11/15/2001	Patron, et al.			
		US 2002/0007217 A1	1/17/2002	Jacob, et al.			
		US 2002/0010261 A1	1/24/2002	Callahan, et al.			
		US 2002/0037383 A1	3/28/2002	Spillman, Jr., et al.			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>							
EXAMINER				DATE CONSIDERED			

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>	ATTY DOCKET NO. 97084/00024	APPLICATION NO. 10/624,993
	Svetlana A. Sukhishvili, et al.	
	FILING July 22, 2003	GROUP ART To be assigned

U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,306,922 B1	10/23/2001	Hubbell, et al.			
		6,316,018 B1	11/13/2001	Ding, et al.			
		6,444,744 B1	9/3/2002	Fujimaru, et al.			
		6,468,383 B2	10/22/2002	Kundel			
		6,509,098 B1	1/21/2003	Merrill, et al.			

U.S. PATENT APPLICATION PUBLICATIONS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		US 2002/0071902 A1	6/13/2002	Ding, et al.			
		US 2002/0091229 A1	7/11/2002	Hubbell, et al.			
		US 2003/0031699 A1	2/13/2003	Van Antwerp			
		US 2003/0054024 A1	3/20/2003	Munro, et al.			

FOREIGN PATENT DOCUMENTS								
*	EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
								YES NO

OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>

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U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,740,409	5/25/04	Granick, et al.			

U.S. PATENT APPLICATION PUBLICATIONS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		US 2003/0069383 A1	4/10/2003	Van Antwerp, et al.			
		US 2003/0077447 A1	4/24/2003	Senak			
		US 2003/0082225 A1	5/1/2003	Mason			
		US 2003/0087099 A1	5/8/2003	Merrill et al.			

FOREIGN PATENT DOCUMENTS								
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO

OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>			

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INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>		Docket Number (Optional) 97084/00024	Application Number 10/624,993
		Applicant(s) Svetlana A. Sukhishvili, et al.	
		Filing Date July 22, 2003	Group Art Unit To be assigned

*EXAMINER INITIAL	OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>
	Antipov Vieira, Euridice, et al.; Abstract of "Controlled and sustained release properties of polyelectrolyte multilayer capsules," Application: WO 2001-EP9908 20010828, 2002, pp. 59.
	Hepel, Maria, et al.; Abstract of "Electrochemically stimulated controlled release of cations from composite conductive polymer matrix," Dept. of Chemistry, State Univ. of New York College, Postdam, NY, Proceedings of the International Symposium on Controlled Release of Bioactive Materials, 2000.
	Sun, Xiangying, et al.; Abstract of "PH and potential-sensitive film of polyaniline for drug release," College of Cehm. Engineering, Huaqiao Univ., Quanzhou, Peop. Rep. China, Huaqiao Daxue Xuebao, Ziran Kexueban 2000.
	Hepel, Maria et al.; Abstract of "Controlled binding and electrorelease of inorganic cations and drugs from composite polymer films," Dept. of Chemistry, State Univ. of New York, Postdam, NY, Polym. Mater. Sci. Eng., 1994.
	Brynda, Eduard, et al., Abstract of "Method for immobilization of proteins and polyelectrolytes on surface of solids," Appln. WO 96-CZ10 19960326, 1996, 13 pp.
	Boulmedais, F., et al., "Multilayered Polypeptide Films: Secondary Structures and Effect of Various Stresses", Insitut Charles Sadron (CNRS), Starbourg Cedex, France, 2003, Langmuir, pp. 9873-9882.
	Sukhishvili, Svetlana A., et al., "Layered, Erasable, Ultrathin Polymer Films", Dept. of Materials Science and Engineering, Univ. of Illinois at Urbana-Champaign, Urbana, Illinois, 2000, J. Am. Chem. Soc., pp. 9550-9551.
	Nicol, Erwan, et al., "Polyelectrolyte Multilayers as Nanocontainers for Functional Hydrophilic Molecules", Unite de Physique et de Chimie des Hauts Polymeres, Universite catholique de Louvain, Louvain-la-Neuve, Belgium, 2003, Langmuir, pp. 6178-6186.
	Chung, A.J., et al., "Methods of Loading and Releasing Low Molecular Weight Cationic Molecules in Weak Polyelectrolyte Multilayer Films", Dept. of Materials Science and Engineering, Massachusetts Inst. of Technology, Cambridge, Mass., 2002, Languir, pp. 1176-1183.
	Lavalle, Philippe, et al., "Direct Evidence for Vertical Diffusion and Exchange Processes of Polyanions and Polycations in Polyelectrolyte Multilayer Films", Instit National de la Sante Et de la Recherche Medicale, Unite 595, Faculte de Chirurgie Dentaire, Universite Louis Pasteur, Strasbourg Cedex, France, 2004, Macromolecules, pp. 1159-1162.
	Sukhishvili, Svetlana A., et al., "Layered, Erasable Polymer Multilayers Formed by Hydrogen- Bonded Sequential Self- Assembly", Dept. of Chemistry and Chemical Biology, Stevens Institute of Technology, Hoboken, New Jersey, 2002, Macromolecules, pp. 301-310.
	Kharlampieva, Eugenia, et al., "Adsorption of Macromolecule as a Release Trigger of Small Molecule from Polymer Multilayers", Dept. of Chemistry & Chemical Biology, Stevens Institute of Technology, Hoboken, New Jersey, 2003, Polymer Preprints, pp.671-672.
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INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>		Docket Number (Optional) 97084/00024	Application Number 10/624,993
		Applicant(s) Svetlana A. Sukhishvili, et al.	
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	Kharlampieva, Eugenia, et al., "Ionization and pH Stability of Multilayers Formed by Self-Assembly of Weak Polyelectrolytes", Dept. of Chemistry and Chemical Biology; Stevens Institute of Tech., Hoboken, New Jersey, 2003, Langmuir, pp. 1235-1243.		
	Specification of U.S. Defensive Publication No. T099082, filed November 15, 2000.		
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